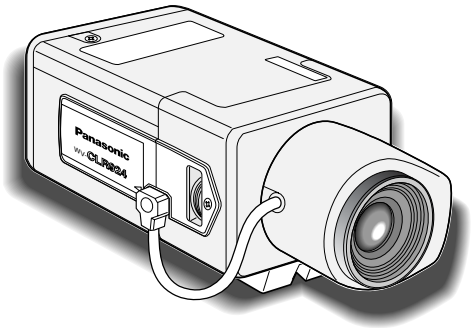
Panasonic

ENGLISH

Colour CCTV Cameras
Operating Instructions

Model No. WV-CLR920A
WV-CLR924AE



(Lens : option)

FRANÇAIS

Before attempting to connect or operate this product,
please read these instructions carefully and save this manual for future use.

ENGLISH VERSION

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives EEC/73/23 and EEC/89/336.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit der folgenden Normen oder normativen Dokumenten übereinstimmt. Gemäß den Bestimmungen der Richtlinie 73/23/EEC und 89/336/EEC.

Nous déclarons sous notre seule responsabilité que le produit auquel se référe cette déclaration est conforme aux normes ou autres documents normatifs conformément aux dispositions de la directive 73/23/CEE et 89/336/CEE.

Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con las normas u otros documentos normativos siguiendo las estipulaciones de las directivas CEE/73/23 y CEE/89/336.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme ai seguenti standard o altri documenti normativi conformi alle disposizioni delle direttive CEE/73/23 e CEE/89/336.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 73/23/EEC en 89/336/EEC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standarder eller andre normative dokumenter i følge bestemmelserne i direktivene 73/23/EEC og 89/336/EEC.

Vi deklarerar härmed värt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med standarddokument, eller andra normativa dokument som framstölls i EEC-direktiv nr. 73/23 och 89/336.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 73/23/EEC ja 89/336/EEC säädöksiä.

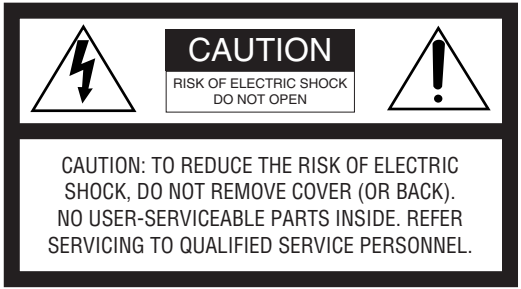
Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 73/23/EEC og 89/336/EEC.

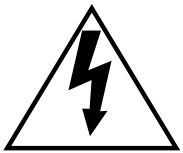
For Australia

THIS APPARATUS MUST BE EARTHED.

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring. Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.





The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.K.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

WARNING: This apparatus must be earthed

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code.

Green-and-yellow:	Earth
Blue:	Neutral
Brown:	Live

As the colours of the wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol ⏚ or coloured **green** or **green-and-yellow**.

The wire which is coloured **blue** must be connected to the terminal in the plug which is marked with the letter N or coloured **black**.

The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter L or coloured **red**.

The serial number of this product may be found on the top of the unit.

You should note the serial number of this unit in the space provided and retain this book as a permanent record of your purchase to aid identification in the event of theft.

Model No. WV-CLR920A/CLR924AE

Serial No. _____

WARNING: To prevent fire or electric shock hazard, do not expose this appliance to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

IMPORTANT SAFETY INSTRUCTIONS

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not use near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the points where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-overs.



13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

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PREFACE

Panasonic's WV-CLR920A (WV-CLR924AE) series digital colour camera introduces a new level of high picture quality and high resolution through the use of a 1/2-inch frame interline transfer CCD image sensor having 762 horizontal pixels (picture elements), and digital signal processing LSI's. This model offers cutting-edge technology for advanced video surveillance.

FEATURES

1. The following functions are built in.
 (1) Auto Light Control (ALC)/Electronic Light Control (ELC)
 (2) Back Light Compensation (Auto: Factory preset, Manual: Manual photometric measuring area set)
 (3) Various External Sync Functions, including Gen-Lock
 (4) Auto/Manual White Balance Function
 (5) Electronic Shutter Function
2. Signal-to-noise ratio of 50 dB
3. Minimum illumination of 0.14 lx (0.014 footcandle) with F1.4 lenses (Colour mode)
4. Minimum illumination of 0.01 lx (0.001 footcandle) with F1.4 lenses (Black and White mode)
5. 570 lines of horizontal resolution (Black and White mode)
 480 lines of horizontal resolution (Colour mode)
6. High quality picture:
 (a) 2H type vertical enhancer for greater picture sharpness
 (b) Chroma averaging circuit for better colour signal to noise ratio
 (c) Minimum of aliasing on fine objects
 (d) Expanded dynamic range by use of knee circuit
 (e) Highlight aperture correction for greater picture detail of bright objects
7. Ability to shoot indoor scenes with fixed iris lens by use of Electronic Light Control (ELC) function.
8. Selectable electronic sensitivity enhancing modes including: AUTO, MANUAL and OFF
9. Built in Digital Motion Detector
10. Auto Black/White mode enables the camera to switch between C/L and B/W in response to input lights.
11. RS-485 Camera site communication (full duplex/ half duplex) is available.

PRECAUTIONS

1. **The installation should be made by qualified service personnel or system installers.**

2. **Do not attempt to disassemble the camera.**
 To prevent electric shock, do not remove screws or covers.
 There are no user serviceable parts inside. Ask a qualified service person for servicing.

3. **Handle the camera with care.**
 Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

4. **Do not expose the camera to rain or moisture, or try to operate it in wet areas.**
 Turn the power off immediately and ask a qualified service person for servicing. Moisture can damage the camera and also create the danger of electric shock.

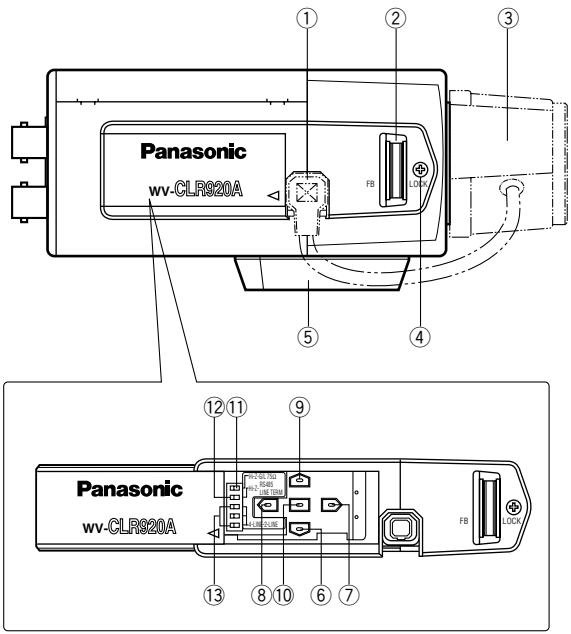
5. **Do not use strong or abrasive detergents when cleaning the camera body.**
 Use a dry cloth to clean the camera when dirty.
 In case the dirt is hard to remove, use a mild detergent and wipe gently. Afterwards, wipe off the remained part of the detergent in it with a dry cloth.

6. **Clean the CCD faceplate with care.**
 Do not clean the CCD with strong or abrasive detergents. Use lens tissue or a cotton tipped applicator and ethanol.

7. **Never face the camera towards the sun.**
 Do not aim the camera at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise, blooming or smear may be caused.

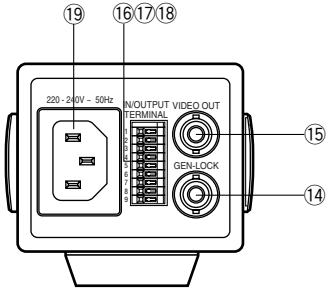
8. **Do not operate the camera beyond the specified temperature, humidity or power source ratings.**
 Use the camera under conditions where temperature is between –10 °C - +50 °C (14 °F - 122 °F), and humidity is below 90 %. The input power source is 220 - 240 V AC 50 Hz for WV-CLR920A and 12 V DC/24 V AC for WV-CLR924AE.

MAJOR OPERATING CONTROLS AND THEIR FUNCTIONS

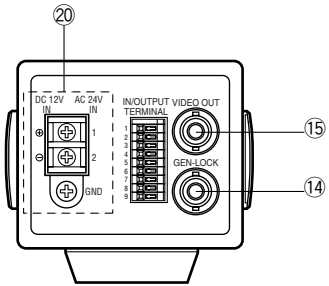


Slide the panel to the left until it locks.

<WV-CLR920A>



<WV-CLR924AE>



① **Auto Iris Lens Connector**
This connector is used to connect the auto iris lens with a 4-pin male connector supplied as a standard accessory (Part No. YFE4191J100).

② **Flange-back Adjusting Ring (FB)**
This ring is used to adjust the back focal length or picture focus. Rotate this ring upward or downward for a CS-mount lens. In case of using a C-mount lens, adjust it with the C-mount adapter.

③ **Lens (Option)**

④ **Focus Fixing Screw (LOCK)**

⑤ **Camera Mounting Screw Hole**
This hole is used to mount the camera onto a mounting bracket.

⑥ **Down Button (▽)**
This button is used to move the cursor downward. It is also used to select items in the CAM SET UP menu.

⑦ **Right Button (▷)**
This button is used to move the cursor to the right. It is also used to select the mode and can be used to adjust some levels.

⑧ **Left Button (◁)**
This button is used to move the cursor to the left. It is also used to select the mode and can be used to adjust some levels.

⑨ **Up Button (△)**
This button is used to move the cursor upward. It is also used to select items in the CAM SET UP menu.

⑩ **Set Button (□)**
This button is used to activate an item selected in the CAM SET UP menu.

⑪ **Gen-lock Termination Switch (Hi-Z, G/L 75Ω)**
Set this switch to Hi-Z when a gen-lock video input signal is looped through. In all other cases, set this switch to 75 Ω.

⑫ **RS-485 Termination Switch (Hi-Z, RS485 LINE TERM)**
This switch is used to terminate of the RS485 terminal. Normally keep it LINE TERM position.

⑬ **Full duplex/Half duplex Selection Switches (4-LINE/2-LINE)**
These triple switches are used to select either full duplex (left side) or half duplex (right side) for the communication lines.

The selected full or half duplex setting will be enabled after the camera is powered up again.

⑭ **Gen-lock Input Connector (GEN-LOCK)**
This connector is used to connect an external system for synchronization.

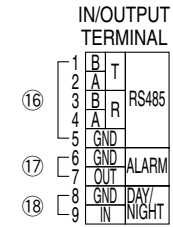
⑮ **Video Output Connector (VIDEO OUT)**
This connector is used to connect with the VIDEO IN connector of the monitor.

⑯ **RS485 Terminals**
(RS485, T(A)/T(B)/R(A)/R(B)/GND)
These terminals are used for RS-485 Camera site communication. Connect RS-485 cables to these terminals.

⑰ **Alarm Output Terminal (ALARM OUT/GND)**
Connects to the alarm input connector (terminal) of an external device. When the camera detects motion, the alarm output signal is supplied to the connected external device (Open collector output: 16 V DC, 100 mA max).

Note: This signal output is not affected by the alarm data setting in the RS485 setup operations. (See page 26.)

⑱ **Day/Night Input Terminal (DAY/NIGHT IN/GND)**
This terminal is used for connecting the camera to an external day/night detecting sensor.



⑲ **AC Inlet Socket**
Plug the power cord (supplied as a standard accessory) into this socket and connect it to an AC outlet.

⑳ **AC/DC Compatible Input Terminal**
(DC 12V IN/AC 24V IN, GND)
This terminal is for connecting the 12 V DC or 24 V AC power supply cord.

Caution: Connect to 12 V DC (10.8 V-16 V) or 24 V AC (19.5 V-28 V) class 2 power supply only. Be sure to connect the grounding lead to the GND terminal when the power is supplied from a 24 V AC power source.

CONNECTIONS

A. WV-CLR920A (220 - 240 V AC 50Hz)

1. Plug the AC power cord (supplied as standard accessory) into the AC inlet socket.
2. Connect the AC power cord to a 220 - 240 V AC 50 Hz outlet.

Notes:

- Connect the power cord firmly.
- The power cord should be long enough for panning and tilting.
 If the cable is too short, the power cord plug may be pulled off the camera when the camera pans or tilts.

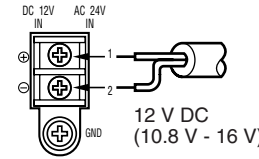
B. WV-CLR924AE (12 V DC/24 V AC 50Hz)

Cautions:

1. Connect to 12 V DC (10.8 V - 16 V) or 24 V AC (19.5 V - 28 V) class 2 power supply only. Be sure to connect the grounding lead to the GND terminal when the power is supplied from a 24 V AC power source.
2. To prevent fire or electric shock hazard, use a UL listed cable (VW-1, style 1007) for the Input Terminal.
3. Take AC 24 V power supply from a third-party external power supply device that complies with the safety standard.

The WV-CLR924AE has an AC/DC compatible input terminal. The 12 V DC or 24 V AC power supply cord can be connected to this terminal. The camera detects the power source automatically.

1. **12 V DC Power Supply**
 Connect the power cord to the AC/DC compatible input terminal on the rear panel of the camera.



Resistance of copper wire [at 20 °C (68 °F)]

Copper wire size (AWG)	#24 (0.22 mm^2)	#22 (0.33 mm^2)	#20 (0.52 mm^2)	#18 (0.83 mm^2)
Resistance Ω/m	0.078	0.050	0.030	0.018
Resistance Ω/ft	0.026	0.017	0.010	0.006

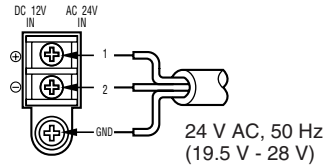
You can use the formula below to select the power supply, and power cable. The voltage supplied to the power-in terminals must be between 10.8 V - 16 V.

$$10.8\ V(\text{minimum}) \leq V_A - 2RLI \leq 16\ V\ (\text{maximum})$$

V_A: Output voltage of power supply
R: Resistance (Ω/m) (Ω/ft), see table
L: Cable length (m) (ft)
I: Current consumption (A), see specifications

2. 24 V AC Power Supply

Connect the power cable to the AC/DC compatible input terminal on the rear panel of the camera.



Recommended wire gauge sizes for 24 V AC line.

Copper wire size (AWG)		#24 (0.22 mm^2)	#22 (0.33 mm^2)	#20 (0.52 mm^2)	#18 (0.83 mm^2)
Length of Cable (Approx.)	(m)	95	150	255	425
	(ft)	314	495	842	1 403

Video Cable

1. It is recommended to use a monitor whose resolution is at least equal to that of the camera.

2. The maximum extensible coaxial cable length between the camera and the monitor is shown below.

Type of coaxial cable		RG-59/U (3C-2V)	RG-6/U (5C-2V)	RG-11/U (7C-2V)	RG-15/U (10C-2V)
Recommended maximum cable length	(m)	250	500	600	800
	(ft)	825	1 650	1 980	2 640

Alarm and DAY/NIGHT Connections

1. Connect an external device such as a buzzer or lamp to the ALARM terminal.

- The alarm output terminal is an open collector terminal with a capacity of 16 V DC, 100 mA maximum.
 OFF: Open contact (Inactive)
 ON: Closed contact 100 mA maximum (Active)
 Note: Use a relay if the voltage or current of the connected device exceeds the ratings.

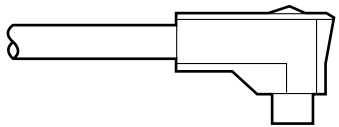
2. Connect an optical sensor to the DAY/NIGHT IN terminal.

- DAY/NIGHT IN terminals with a capacity of 5 V DC pull-up input, 0.2 mA or more.
 OFF: Open contact (Colour)
 ON: Closed contact (Black-and-White)
 Note: To activate the Day/Night function, set BW mode to EXT on the special menu.

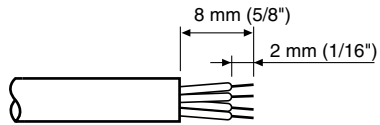
Replacement of Auto Iris Lens Connector

If necessary, replace the existing lens connector with the type YFE419J100 supplied.

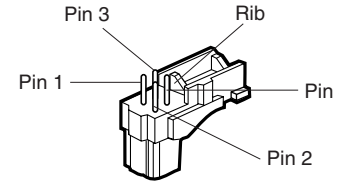
1. Cut the existing lens connector at the end of the iris control cable.



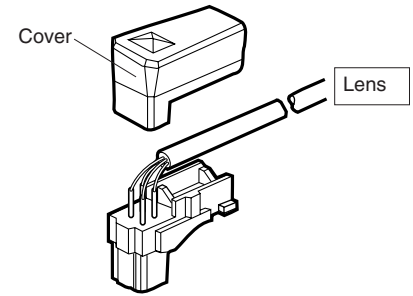
2. Process the cable end as shown in the figure.



3. Solder each wire to a pin as follows.
 Pin #1: Red/Power
 Pin #2: Not used
 Pin #3: White/Video
 Pin #4: Black/GND, Shield



4. Attach the cover to the connector.

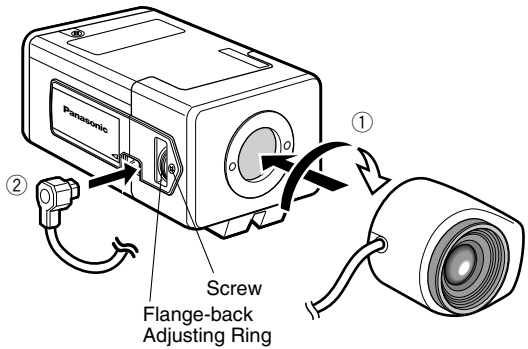


Mounting the Lens

Caution:

Before you mount the lens, loosen the fixing screw on the side of the camera, and rotate the flange-back adjusting ring counterclockwise until it stops. If the ring is not at the end, the inner glass or CCD image sensor may be damaged.

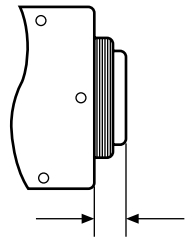
1. Mount the lens by turning it clockwise on the lens mount of the camera.
2. Connect the lens cable to the auto iris lens connector on the side of the camera.



Caution for Mounting the Lens

The lens mount should be a CS-mount (1”-32UN). In case of a C-mount, it should be a C-mount adapter and the lens weight should be less than 450 g (0.99 lbs). If the lens is heavier, both the lens and camera should be secured by using the supporter.

The protrusion at the rear of the lens should be as shown below:



CS-mount: Less than 4 mm (5/32”)

RS-485 Setting

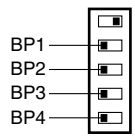
Follow the procedures as below.

1. Slide the panel to the left until it locks.
2. Set RS-485 Termination Switch to RS485 LINE TERM for the furthermost camera from the RS232C/ RS485 converter and Hi-Z for the other camera. Initial factory setting is RS485 LINE TERM.

	RS-485 Termination Switch (BP 1)	Function
Switch Position	RS485 LINE TERM	Termination ON
	Hi-Z	Hi-Z

3. Select protocol by sliding triple full duplex/half duplex selection switches simultaneously. Initial factory settings are 4-line.

	BP 2	BP 3	BP 4	Function
Switch Position	Right	Right	Right	Half duplex (2-line)
	Left	Left	Left	Full duplex (4-line)



Notes:

- BP stands for Bit Position.
- Daisy chain connection is not available for full duplex.

RS485 Terminal

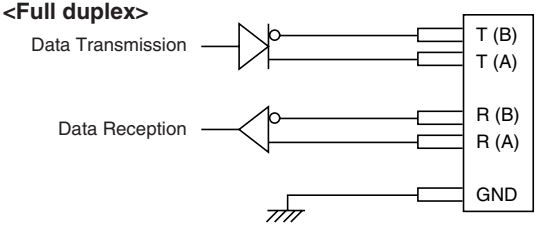
Control data is transmitted and received to and from other peripherals.

Notes:

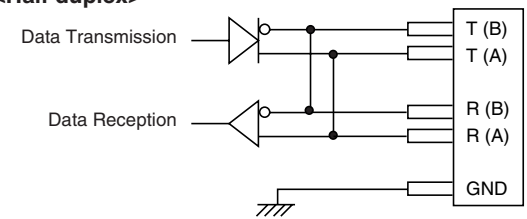
- Shielded, two twisted pairs cable
- Low impedance
- Wire gauge size is thicker than AWG#22 (0.33 mm^2)

● Internal Diagram

<Full duplex>

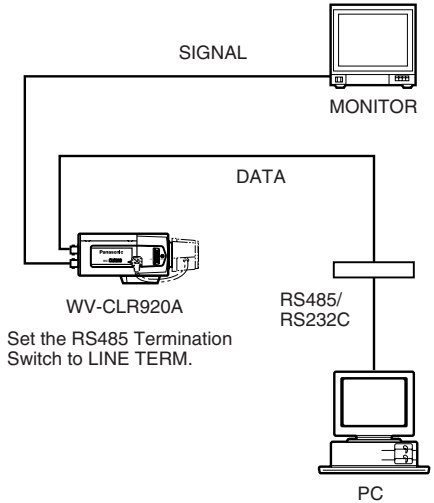


<Half duplex>

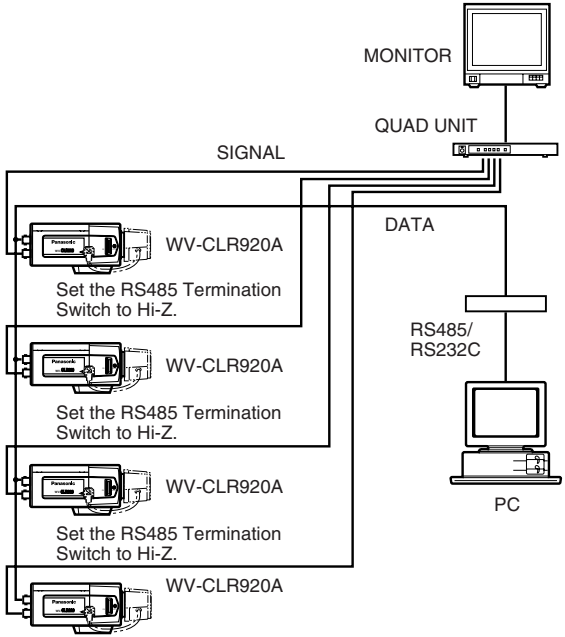


SYSTEM CONNECTION

A) Single Camera Connection (RS-485 Interface Model/Full Duplex, Half Duplex)



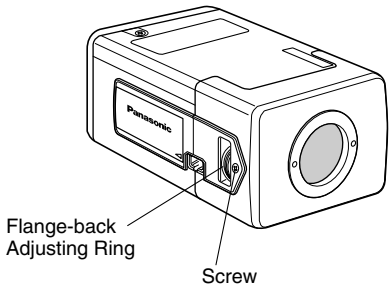
B) Daisy-chain Connection (RS-485 Interface Model/Half Duplex)



FOCUS OR FLANGE-BACK ADJUSTMENT

The following adjustment should be made by qualified service personnel or system installers.

1. Loosen the screw on the side of the camera.



2. Turn the flange-back adjusting ring to the desired position.

 Note: Adjusting a focus in the visible rays may be soft-focused with the near-infrared light.

3. Tighten the screws on the side of the camera.

 Caution: Tightening the screw by force will cause damage to the screw or deviation of focus.

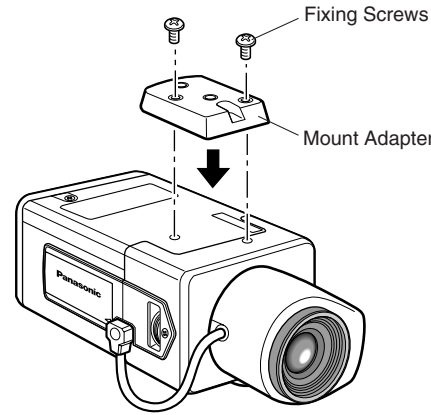
INSTALLATION OF CAMERA

- **Mounting from the top**

 Remove the mount adapter from the bottom of the camera by removing the two fixing screws. Attach the mount adapter to the top as shown in the diagram, then mount the camera on the mounting bracket.

 Use the two original screws to attach the mount adapter to the camera. Using shorter ones may cause the camera to fall down, and using longer ones may damage the inside of the camera.

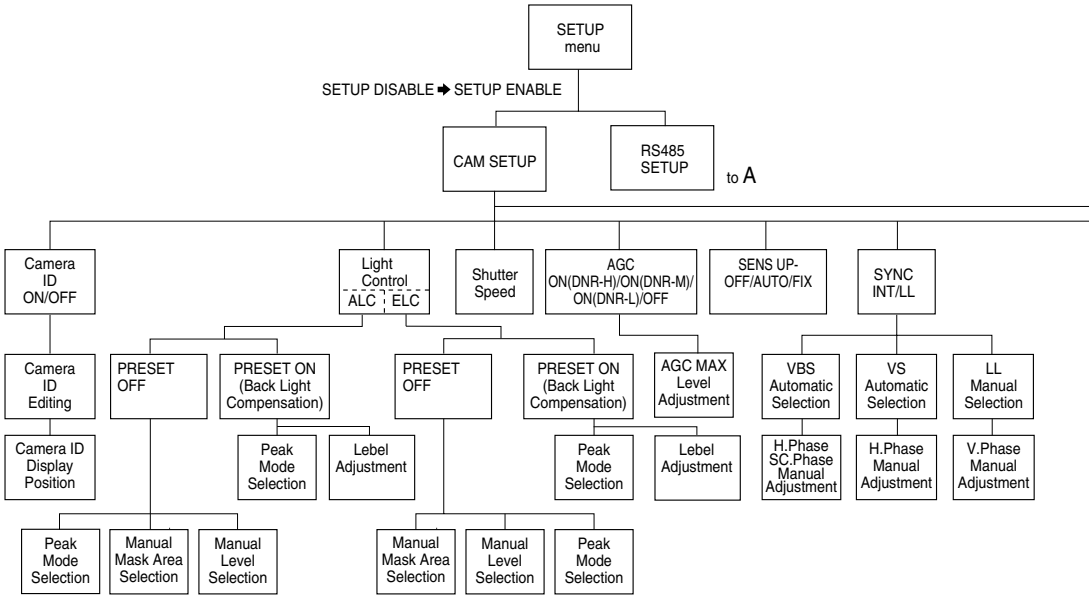
 Using excessively short screws may cause camera drop.

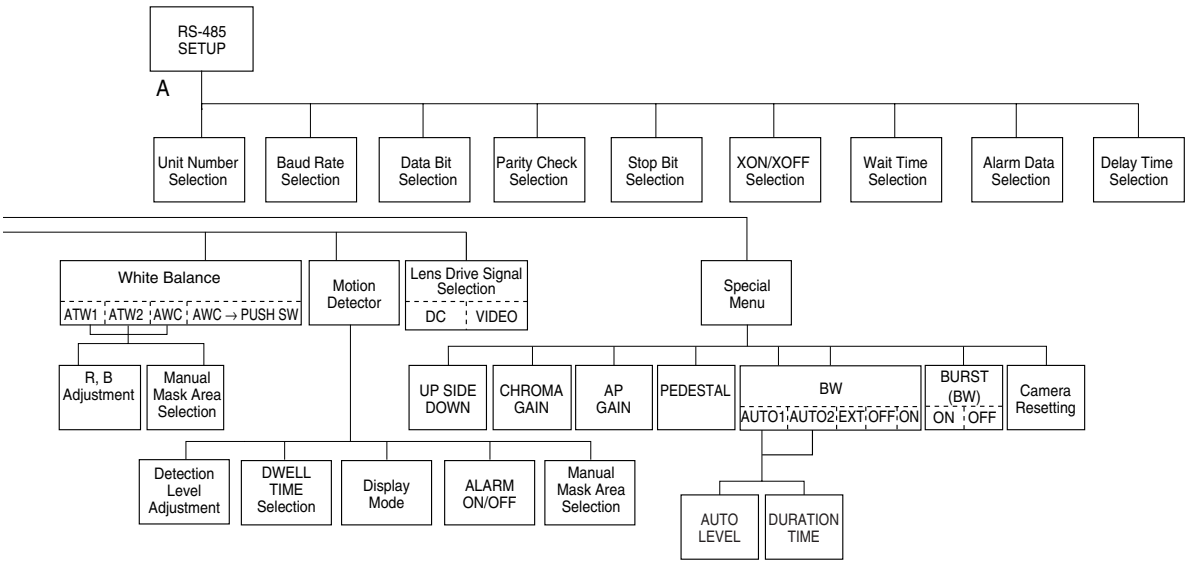


SETUP

1. CAMERA SETUP MENU

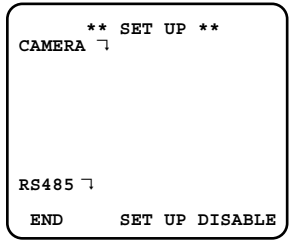
This camera utilizes a user setup menu that is displayed on-screen.
The setup menu contains various items that form a tree type structure.




RS-485 SETUP
A
Unit Number Selection
Baud Rate Selection
Data Bit Selection
Parity Check Selection
Stop Bit Selection
XON/XOFF Selection
Wait Time Selection
Alarm Data Selection
Delay Time Selection
White Balance
ATW1 ATW2 AWC AWC → PUSH SW
R, B Adjustment
Manual Mask Area Selection
Motion Detector
Detection Level Adjustment
DWELL TIME Selection
Display Mode
ALARM ON/OFF
Manual Mask Area Selection
Lens Drive Signal Selection
DC VIDEO
Special Menu
UP SIDE DOWN
CHROMA GAIN
AP GAIN
PEDESTAL
BW
AUTO1 AUTO2 EXT OFF ON
AUTO LEVEL
DURATION TIME
BURST (BW)
ON OFF
Camera Resetting

• Opening the Setup Menu

Press and hold down ▣ for 2 seconds or more.

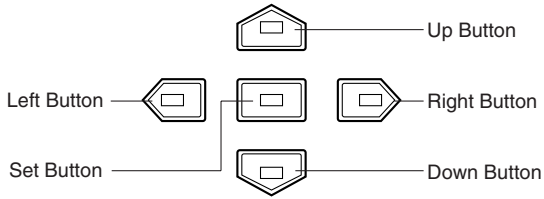


The SET UP menu appears on the monitor as shown above.

Note: The menu displayed on the monitor will close and change to the camera picture if no button is pressed for 6 minutes.

2. SETUP OPERATION

This camera utilizes a user setup menu (CAM SET UP) that is displayed on the monitor.
To set items on the CAM SET UP menu, use the following buttons on the side panel.



Up Button (): Moves the cursor upwards. Use this button to select an item or adjust the parameters.

Down Button (): Moves the cursor downwards. Use this button to select an item or adjust the parameters.

Right Button (): Moves the cursor to the right. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.

Left Button (): Moves the cursor to the left. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.

Set Button (): Executes selection and displays a submenu for an item with ↴ mark.

- To reset the parameter of an item to the factory default setting, move the cursor to that row and press and simultaneously.
- To return to the previous menu or page, move the cursor to RET and press .
- To close the setup menu, move the cursor to END and press .

• All Reset Operation

All reset allows you to reset all adjustments and parameters to the factory default settings.

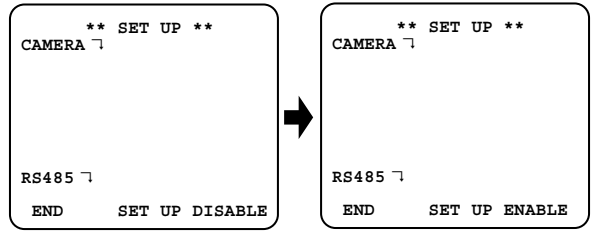
(1) Make sure that the setup menu is not displayed (a camera picture is displayed).
(2) While pressing both and , press for a few seconds. The message ALL RESET momentarily appears on the monitor.

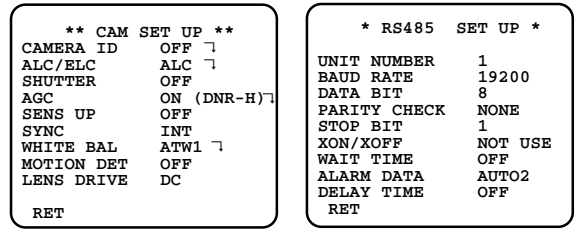
• Editing the Setup Menu

Important Notices:

- When SET UP DISABLE appears in the bottom line of the SET UP menu, you cannot change the currently active settings. This is to prevent accidental changing of the settings.
- Set the RS485 menu previously. (See page 25.)
- When the setup menu is closed after changing the parameters in the menu, the new values are saved in the EEPROM (Electric Erasable and Programmable Read Only Memory). These values remain valid until new values are saved, even if the power of the camera is off.

To edit the SET UP menu (change settings), press and or and to move the cursor to SET UP DISABLE in the bottom line.
Press . SET UP DISABLE changes to SET UP ENABLE. Move the cursor to END, then to the item(s) you want to change. Move the cursor to CAMERA or RS485, then press .
Refer to the following sections for a detailed description of menu items. If you decide not to make any changes after checking the current settings, move the cursor to RET in the bottom line, and press to return to the SET UP menu. Then move the cursor to END in the SET UP menu, and press to close the setup menu.





• RS485 SET UP

You can remote control this camera by using a specified extension unit such as personal computer with a modem.

Move the cursor to RS485 in the SET UP menu and press [▣]. The RS485 SET UP menu appears on the monitor screen.

```
    * RS485  SET UP *

UNIT NUMBER     1
BAUD RATE       19200
DATA BIT        8
PARITY CHECK    NONE
STOP BIT        1
XON/XOFF        NOT USE
WAIT TIME       OFF
ALARM DATA      AUTO2
DELAY TIME      OFF
 RET
```

Unit Number Setting

This item lets you select the camera number for RS-485 communication.

1. Move the cursor to the UNIT NUMBER parameter.
2. Select the camera number to be used with RS-485 communication.
 The initial factory setting is 1.

Baud Rate Setting

This item is lets you select the transmission speed for RS-485 communication. (BAUD is the unit of bit per second.)

1. Move the cursor to the BAUD RATE parameter.
2. Select the 19 200, 9 600, 4 800 or 2 400 bps for the baud rate.
 The initial factory setting is 19 200 bps.

Data Bit Setting

This item lets you select the number of data bits for RS-485 communication.

1. Move the cursor to the DATA BIT parameter.
2. Select 7 or 8 bit for the number of data bits.
 The initial factory setting is 8 bit.

Parity Check Setting

This item lets you select the parity bit for RS-485 communication.

1. Move the cursor to the PARITY CHECK parameter.
2. Select NONE, EVEN or ODD for parity check.
 The initial factory setting is NONE.

Stop Bit Setting

This item lets you select the number of stop bits for RS-485 communication.

1. Move the cursor to the STOP BIT parameter.
2. Select 1 or 2 for the number of stop bits.
 The initial factory setting is 1 bit.

XON/XOFF Setting

This lets you select applying the flow control or not for RS-485 communication.

1. Move the cursor to the XON/XOFF parameter.
2. Select NOT USE (not apply flow control) or USE (apply flow control) mode for XON/XOFF for RS-485 communication.
 The initial factory setting is NOT USE.

Wait Time Setting

This item lets you select the waiting time in milli-seconds (ms) to retry after confirming that no data is received from the controller for RS-485 communication.

1. Move the cursor to the WAIT TIME parameter.
2. Select OFF, 100, 200, 400 or 1 000 ms for the wait time.
 When no transmission is needed, select OFF.
 The initial factory setting is OFF (No retry).

Alarm Data Setting

This item lets you select the way of transmitting the alarm data for RS-485 communication.

1. Move the cursor to the ALRAM DATA parameter.
2. Select the alarm data transmission mode from following parameters.

 POLLING: Transmit the alarm data to the controller to request from the controller.

 AUTO1: Transmit the alarm data each time the alarm signal is received.

 AUTO2: Transmit the alarm data 5 seconds each.

 The initial factory setting is AUTO2.

Delay Time Setting

This item lets you select the lowest delay time to reply the reception of data when communicating on a 2-line for RS-485 communication.

1. Move the cursor to the DELAY TIME parameter.
2. Select OFF or 100 ms for the delay time.
 The initial factory setting is OFF.

 Notes:

 - This item appears only when a half duplex (2-line) connection is used.
 - Setting change is disabled when a full duplex (4-line) connection is used.
 - The selected full or half duplex setting will become valid after the camera has been powered up again.

• Installation of Software for RS-485 Communication

1. Insert the Install Disk 1 to the C drive.
2. Input command as follows.
 C:\SETUP ↵ .
 The installation starts.
3. See the supplement of operating instructions for RS-485 Communication.
4. When the installation is completed, the window that says "485_GUI Set up was completed successfully" appears on the monitor screen.
5. After installation of "485_GUI Set up", and set the RS485 communication parameters.

* The GUI stands for Graphical User Interface.

SETTING PROCEDURES

1. Camera Identification (CAMERA ID) Setting

Move the cursor to ↵ of CAMERA. You can use the camera identification (CAMERA ID) menu to assign a name to the camera. The camera ID consists of up to 16 alphanumeric characters. The camera ID display can be switched on or off on the monitor screen.

```
      ** SET UP **
CAMERA ↵




RS485 ↵

 END      SET UP DISABLE
```

```
    ** CAM SET UP **
CAMERA ID     OFF ↵
ALC/ELC       ALC ↵
SHUTTER       OFF
AGC           ON(DNR-H)↵
SENS UP       OFF
SYNC          INT
WHITE BAL     ATW1 ↵
MOTION DET    OFF
LENS DRIVE    DC

 END
```

Camera ID ON/OFF

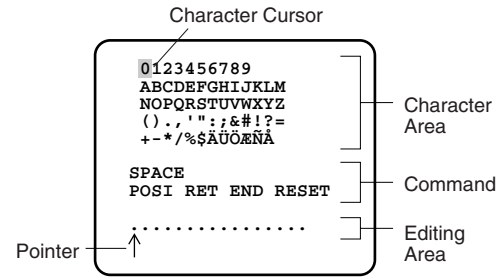
Move the cursor to CAMERA ID, and select ON or OFF.

ON: Displays the camera ID in the specified position on the monitor.

OFF: Does not display.

To edit the CAMERA ID

1. Press [▣]. The CAMERA ID menu appears. The cursor on the letter "0" is highlighted.



CAMERA ID menu

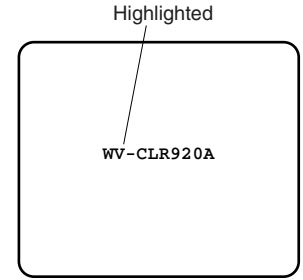
2. Move the cursor to the character you want to edit by pressing ◁/▷/△/▽.
3. After selecting the character, press ⊡. The selected character appears in the editing area. (The pointer in the editing area moves to the right automatically at this moment.)
4. Repeat the steps above until all characters are edited.

To enter a blank space in the CAMERA ID
Move the cursor to SPACE and press ⊡.

To replace a specific character in the CAMERA ID
1. Move the cursor to the editing area by pressing ▽.
2. Move the pointer to the character to be replaced by pressing ◁ or ▷. Then move the cursor to the character area and select a new character.
3. Press ⊡ to determine the CAMERA ID.

To erase all characters in the editing area
Move the cursor to RESET and press ⊡. All characters in the editing area disappear.

To determine the display position of the CAMERA ID
1. Move the cursor to POSI, and press ⊡. The display shown below appears and the CAMERA ID is highlighted.



2. Move the CAMERA ID to the desired position by pressing ◁/▷/△/▽.
3. Press ⊡ to fix the position of the CAMERA ID. The mode returns to the previous CAMERA ID menu.

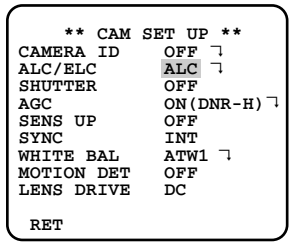
Notes:
- The CAMERA ID stops at the edges of the monitor screen.
- The CAMERA ID moves faster if any of ◁/▷/△/▽ is kept pressed for a second or more.

2. Light Control Setting (ALC/ELC)

You can select the mode for adjusting the lens iris.
The modes are as follows:

ALC: Select this mode when an auto iris lens (ALC lens) is used with this camera.

ELC: Select this mode when a fixed iris lens or manual iris lens is used with this camera.



1. Move the cursor to ALC/ELC.
2. Select ALC or ELC.

Cautions:

1. Under bright lighting conditions such as outdoors, use an ALC type lens because the ELC control range is not wide enough under these conditions.
2. Use an ALC type lens if the following phenomena occur:
 - Strong smear and/or blooming on highlight objects such as spotlight or sunlight from windows.
 - Noticeable flicker in the picture and/or colour rendition variations.
3. If ELC is selected, SHUTTER is not available.

Back Light Compensation (BACK LIGHT COMP)

Back light compensation is available for both the ALC and ELC modes. It eliminates strong background lighting which makes the camera picture dark, such as a spotlight. You can select one of two modes (PRESET ON or PRESET OFF) of back light compensation.

2-1. ALC Mode with PRESET ON

In normal use, the important object in a scene is placed in the centre of the monitor's screen. In the factory setup mode, more photometric weight is given to the centre of the screen (where the important object is located) than to the edge of the picture (where a bright backlight would most likely be located). In this mode, the object at the centre of the screen will always be clearly visible regardless of backlight variations.

Note: If ELC is selected, set LEVEL according to this procedure.

```
    ** CAM SET UP **
CAMERA ID      OFF ┐
ALC/ELC        ALC ┐
SHUTTER        OFF
AGC            ON(DNR-H)┐
SENS UP        OFF
SYNC           INT
WHITE BAL      ATW1 ┐
MOTION DET     OFF
LENS DRIVE     DC

 RET
```

1. Select ALC and press [▭]. The ALC CONT menu appears.

```
    ** ALC CONT **
    BACK LIGHT COMP

PRESET         OFF
PEAK MODE      OFF
MASK SET ┐

LEVEL          ...I.....
               -       +


RET  END
```

```
    ** ALC CONT **
    BACK LIGHT COMP

PRESET         ON
PEAK MODE      OFF


LEVEL          ...I.....
               -       +


RET  END
```

2. Move the cursor to PRESET and select ON.
 The backlight compensation is automatically set.
3. If you want to change the video output level (picture contrast), move the "I" cursor for LEVEL and adjust the level.
4. Move the cursor to RET and press [▭] to return to the CAM SET UP menu.

2-2. ALC Mode with PRESET OFF

These modes are effective when the main object in the scene is not located in the centre of the screen and a source of bright light is located near the centre of the screen. In these modes, the picture is divided into 48 areas that mask the light to keep the clarity of the picture.

Note: If ELC is selected, set MASK SET and LEVEL according to this procedure.

1. Move the cursor to PRESET and select OFF.
 The item MASK SET appears on the menu.

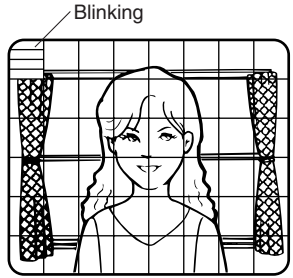
```
    ** ALC CONT **
    BACK LIGHT COMP

PRESET         OFF
PEAK MODE      OFF
MASK SET ┐

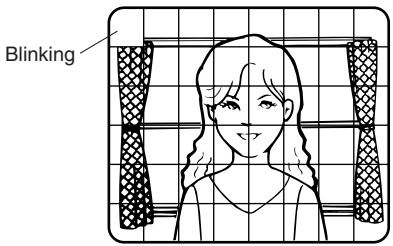
LEVEL          ...I.....
               -       +


RET  END
```

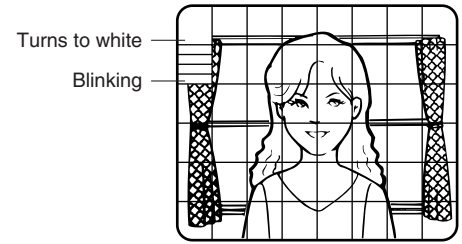
2. Move the cursor to MASK SET and press ▭.
 The 48 mask areas appear on the monitor screen. The cursor is blinking in the top left corner of the screen.



3. Move the cursor to the area where backlight is bright, and press ▭ to mask that area. The mask turns white. (When the cursor is moved on an area that has already been masked, the mask and cursor start blinking.)



4. Repeat step 3 to mask the desired area. To cancel masking, move the cursor to that area and press ▭.



5. After masking is completed, press ▭ for 2 seconds or more. The ALC CONT menu appears.
6. If you want to change the video output level (picture contrast), move the “I” cursor for- LEVEL and adjust the level.
7. Move the cursor to RET and press ▭ to return to the CAM SET UP menu. (To return to the camera picture, move the cursor to END and press ▭).

Caution: When an auto iris lens requiring a DC control signal is used, the lens iris is fully opened in ELC mode.

2-3. Compensating Flare Phenomenon (PEAK MODE)

There may be cases where the lens causes the displayed picture to sway like a flare especially when a strong light is input. You can compensate for this undesired effect.

Move the cursor to PEAK MODE, and select ON or OFF.

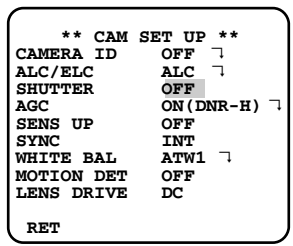
ON: Compensates flaring of the picture.

OFF: Does not compensate.

3. Shutter Speed Setting (SHUTTER)

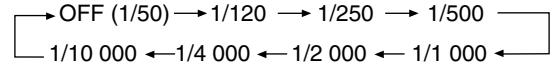
Note: When ELC is selected for ALC/ELC on the CAM SET UP menu, this item is not available.

You can select an electronic shutter speed of 1/50 (OFF), 1/120, 1/250, 1/500, 1/1 000, 1/2 000, 1/4 000, or 1/10 000 seconds.



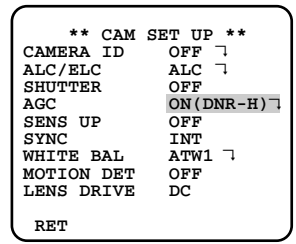
Move the cursor to SHUTTER and select the electronic shutter speed.

The preset values for SHUTTER (electronic shutter speed) change by pressing ◁ or ▷ as follows:



4. Gain Control Setting (AGC ON/OFF)

You can select an automatic gain control (AGC) mode with dynamic noise reduction (DNR) options.



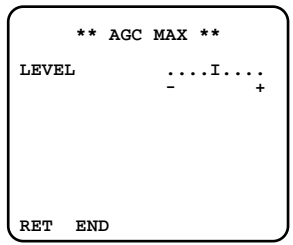
1. Move the cursor to AGC and select a mode.
 OFF: Applies neither AGC nor DNR.
 ON (DNR-H): Applies AGC with high-level DNR.

ON (DNR-M): Applies AGC with middle-level DNR.
ON (DNR-L): Applies AGC with low-level DNR.

Notes:

- The higher the DNR level becomes, the more after images and the less noise you will see.
- Selecting DNR-L is recommended when the picture contains moving objects.
- When using a system controller, the parameters (DNR-H/M/L) will not appear on its setup menu.

2. Press (set) to open the AGC MAX (maximum level) menu.



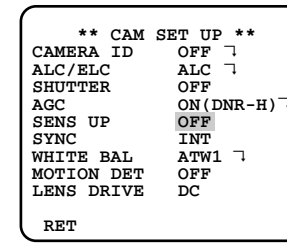
3. Move the "I" cursor with ◁ or ▷ to adjust the AGC level.
4. Move the cursor to RET and press (set) to return to the CAM SET UP menu. When closing the menu, move the cursor to END and press (set).

5. Electronic Sensitivity Enhancement (SENS UP)

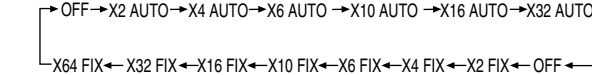
There are two modes for SENS UP.

AUTO: If you select X32 AUTO, for example, the sensitivity is raised automatically to X32 max. When AUTO is selected, AGC is automatically set to ON.

FIX: If you select X64 FIX, for example, the sensitivity is raised to just X64.



Move the cursor to SENS UP and select the parameter for electronic sensitivity enhancement.
The preset values for SENS UP (electronic sensitivity enhancement) change by pressing ◁ or ▷ as follows:



Notes:

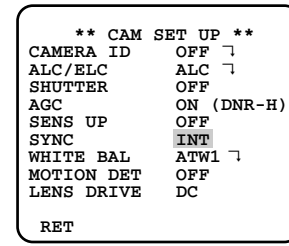
- While the SENS UP function is active, the increased sensitivity may cause noise, spots or a whitish phenomenon to appear in the picture. This is a normal phenomenon.
- X64 FIX does not appear for the SENS UP parameter on the system controller setup menu.
- In case of using the WV-CU204 or WV-CU254 Controller, status does not appear correctly for the SENS UP parameter on the setup menu.

6. Synchronization Setting (SYNC)

You can select internal sync mode (INT) or line-lock mode (LL). Additionally, this model accepts the VBS signal (colour composite video or blackburst signal) and VS signal (B/W composite video or composite sync signal). The VD2 signal (multiplexed vertical drive signal) with the composite video output signal from external equipment such as a Matrix Switcher is also acceptable.

Whenever the VD2 signal is supplied to this camera, the camera automatically switches to the VD2 sync mode.

1. Move the cursor to the SYNC parameter and select line-lock (LL) or internal (INT).
2. Press [▣].
 If LL is selected, the SYNC menu appears. See page 37. (If INT is selected, the synchronization mode is automatically set to internal sync pulse, and the menu is not displayed.)



Rules on synchronization

- The priorities for the sync mode are as follows. A higher mode will overrule lower ones.
 1. Multiplexed Vertical Drive (VD2) (Highest priority)
 2. Line-lock (LL)
 3. Colour Composite Video or Blackburst Signal (VBS)
 4. B/W Composite Video or Composite Sync Signal (VS)
 5. Internal Sync (INT) (Lowest priority)
- When the internal sync mode is to be used, select INT. No gen-lock input signal should be supplied to the Gen-lock Input Connector on the rear panel.

- Whenever the multiplexed vertical drive pulse (VD2) is supplied to the camera from an external equipment such as a Matrix Switcher, the camera sync mode is automatically switched to the VD2 mode.
- When the VBS or VS gen-lock mode is to be used select INT from this menu and supply the gen-lock input signal to the Gen-lock Input Connector on the rear panel.
- The VBS gen-lock mode has a submenu for horizontal and subcarrier phase adjustments. When the cable length of the video output or the gen-lock input is changed, the horizontal and subcarrier phase must be re-adjusted.
- The VS gen-lock mode has a submenu for horizontal phase adjustments. When the cable length of the video output or the gen-lock input is changed, the horizontal phase must be re-adjusted.
- The line-lock mode has a submenu for line-lock vertical phase adjustment. If the camera installation is relocated, check the vertical phase adjustment again since the AC line phase may be different.

6-1. Internal Sync Mode (INT)

1. Move the cursor to SYNC and select INT.
2. Press [▣].

 Note: Never supply VD2, VBS, or VS to the camera when you intend to operate the camera in the internal mode. Otherwise your selection will be ignored because INT has the lowest priority.

```
    ** CAM SET UP **
CAMERA ID     OFF ┐
ALC/ELC       ALC ┐
SHUTTER       OFF
AGC           ON(DNR-H)┐
SENS UP       OFF
SYNC          INT
WHITE BAL     ATW1 ┐
MOTION DET    OFF
LENS DRIVE    DC

 RET
```

6-2. VBS Gen-lock Mode (EXT(VBS))

```
    ** CAM SET UP **
CAMERA ID     OFF ┐
ALC/ELC       ALC ┐
SHUTTER       OFF
AGC           ON(DNR-H)┐
SENS UP       OFF
SYNC          INT
WHITE BAL     ATW1 ┐
MOTION DET    OFF
LENS DRIVE    DC

 RET
```

➡

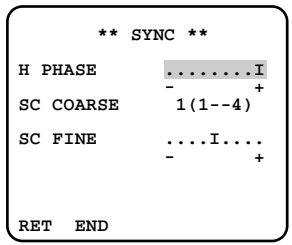
```
    ** CAM SET UP **
CAMERA ID     OFF ┐
ALC/ELC       ALC ┐
SHUTTER       OFF
AGC           ON(DNR-H)┐
SENS UP       OFF
SYNC          EXT(VBS) ┐
WHITE BAL     ATW1 ┐
MOTION DET    OFF
LENS DRIVE    DC

 RET
```

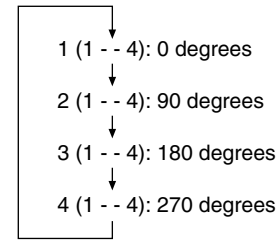
1. Move the cursor to SYNC and select INT.
2. Connect the coaxial cable for the blackburst or composite colour video signal to the gen-lock input connector.

3. Confirm that INT changed to EXT (VBS) on the menu.
 Caution: The gen-lock input signal should meet the CCIR specifications and should not contain jitter, such as a VTR playback signal, as it could disturb synchronization.

4. After confirming that the cursor is on EXT (VBS), press ▣. The phase adjustment menu appears on the monitor.



5. Supply the video output signal of the camera to be adjusted and the reference gen-lock input signal to a dual-trace oscilloscope.
6. Set the oscilloscope to the horizontal rate and expand the horizontal sync portion on the oscilloscope.
7. Move the cursor to H PHASE.
8. Adjust the horizontal phase by pressing ◁▣ or ▣▷. The adjustable range is 0 - 2.0 µs.
9. Move the cursor to SC COARSE.
10. Press ◁▣ or ▣▷ to match the chroma phase of the camera's video signal, when observed at the output of the Special Effect Generator (SEG) or Switcher, as closely as possible to the colour of the original scene. (SC COARSE adjustment can be incremented in steps of 90 degrees (4 steps) by pressing ◁▣ or ▣▷.)
 Note: After the fourth step, the adjustment returns to the first step.



11. Move the cursor to SC FINE.
12. Press ◁▣ or ▣▷ to match the colour (hue) of the camera's video signal, when observed at the output of the Special Effect Generator (SEG) or Switcher, as closely as possible to the colour of the original scene.

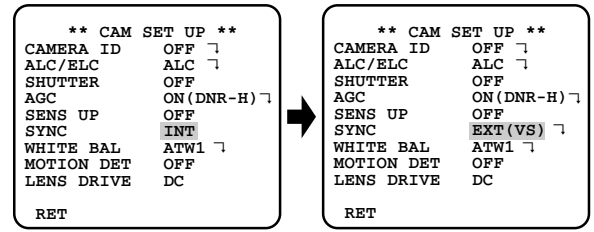
The SC FINE adjustment has a range of 90 degrees of colour shift.

Notes:

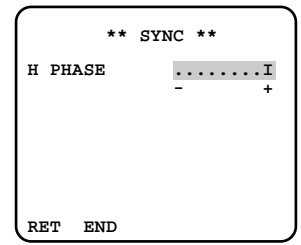
- When the "I" cursor reaches the "+" end, it jumps back to "–". At the same time, SC COARSE is incremented by one step to enable a continuous adjustment. The reverse takes place when the "I" cursor reaches the "–" end.
- When ◁ or ▷ is kept pressed for a second or more, the "I" cursor moves faster.
- For more accurate adjustment, supply both the original camera video output signal and the effect output video signal (program output video signal) of the special effects generator (SEG) to a vectorscope and compare the chroma phase of both signals.
- To reset SC COARSE and SC FINE to the values preset at the factory, press ◁ and ▷ simultaneously.

6-3. VS Gen-lock Mode (EXT(VS))

1. Move the cursor to SYNC and select INT.
2. Connect the coaxial cable for the composite sync or composite B/W video signal to the gen-lock input connector.
3. Confirm that INT changed to EXT (VS) on the menu.
 Caution: The gen-lock input signal should meet the CCIR specifications and should not contain jitter, such as a VTR playback signal, as it could disturb synchronization.



4. After confirming that the cursor is on EXT (VS), press ▷. The phase adjustment menu appears on the monitor.



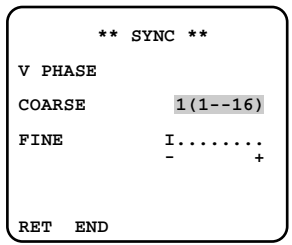
5. Supply the video output signal of the camera to be adjusted and the reference gen-lock input signal to a dual-trace oscilloscope.

6. Set the oscilloscope to the horizontal rate and expand the horizontal sync portion on the oscilloscope.
7. Move the cursor to H PHASE.
8. Adjust the horizontal phase by pressing ◁ or ▷. The adjustable range is 0 - 2.0 µs.

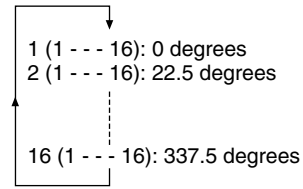
6-4. Line-lock Sync Mode (LL)

Note: The line-lock mode is not applicable when DC power and/or VD2 synchronization is supplied to the camera.

1. Move the cursor to SYNC and select LL.
2. After confirming that the cursor is on LL, press ▽. The vertical phase adjustment menu appears on the monitor.



3. Supply the video output signal of the camera to be adjusted and the reference camera video output signal to a dual-trace oscilloscope.
4. Set the oscilloscope to the vertical rate and expand the vertical sync portion on the oscilloscope.
5. Move the cursor to COARSE. The cursor is highlighted.
6. Press ◁ or ▷ to match the vertical phase for both video output signals as closely as possible. (COARSE adjustment can be incremented in 16 steps by 22.5 degrees by pressing ◁ or ▷.)



Note: After the sixteenth step, the adjustment returns to the first step.

7. Move the cursor to FINE.
8. Press ◁ or ▷ to match the vertical phase for both video output signals as closely as possible. (FINE adjustment can be made up to 22.5 degrees by pressing ◁ or ▷.)

Notes:

- When the "I" cursor reaches the "+" end, it jumps back to "–". At the same time, COARSE is incremented by one step to enable a continuous adjustment. The reverse takes place when the "I" cursor reaches the "–" end.
- When ◁ or ▷ is kept pressed for a second or more, the "I" cursor moves faster.
- To reset COARSE and FINE to the values preset at the factory, press ◁ and ▷ simultaneously. COARSE and FINE adjustments are preset at the factory to zero-crossing of the AC line phase.
- If the AC line contains noise (spike noise, etc.), the stability of the vertical phase of the camera video output signal may be disturbed.

7. White Balance Setting (WHITE BAL)

7-1. Auto-Tracing White Balance Mode (ATW)

You can select one of four modes for white balance adjustment as follows:

- **ATW1 (Auto Tracing White Balance 1)**
 In this mode, the colour temperature is monitored continuously and thereby white balance is set automatically. The colour temperature range for the proper white balance is approximately 2 600 - 6 000K. Proper white balance may not be obtained under the following conditions:
 1. The colour temperature is out of the 2 600 - 6 000K range.
 2. When the scene contains mostly high colour temperature objects, such as a blue sky or sunset.
 3. When the scene is dim.
 In these cases, select the AWC mode.

 Move the cursor to WHITE BAL and select ATW1. The white balance of the camera is automatically set.

```
    ** CAM SET UP **
CAMERA ID     OFF ┐
ALC/ELC       ALC ┐
SHUTTER       OFF
AGC           ON(DNR-H)┐
SENS UP       OFF
SYNC          INT
WHITE BAL     ATW1 ┐
MOTION DET    OFF
LENS DRIVE    DC

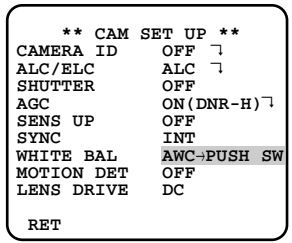
 RET
```

- **ATW2 (Auto Tracing White Balance 2)**
 Auto-tracing white balance of the sodium light mode (ATW2)
 In case that you select ATW2 for sodium light, white balance is set automatically (Operation is not needed).

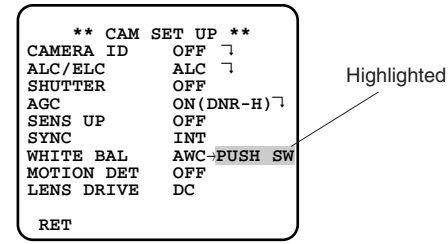
Note: ATW1 and ATW2 do not appear for WHITE BAL on the system controller setup menu.

- **Automatic White Balance Control Mode (AWC)**
 In this mode, accurate white balance is obtained within a colour temperature range of approximately 2 300 - 10 000K.

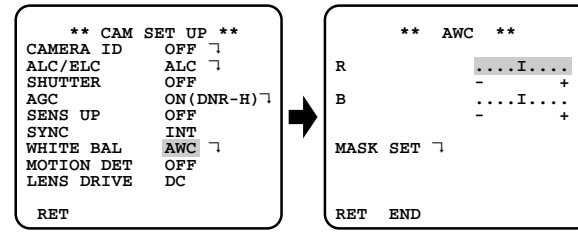
1. Move the cursor to WHITE BAL and select AWC → PUSH SW.



2. Press [SET] to start the white balance setup. The PUSH SW is highlighted to indicate that the white balance is being set.



3. When the white balance setting is completed, the PUSH SW returns to normal display.
 Note: In case that the white balance is not set, the PUSH SW is being highlighted.
4. When you want to adjust the white balance manually, press [▷] to select AWC and press [SET]. The AWC menu appears on the monitor. (When ATW is selected, pressing [SET] displays the ATW menu.)



Manual Fine Adjustment for AWC (ATW)

You can set the white balance items manually.

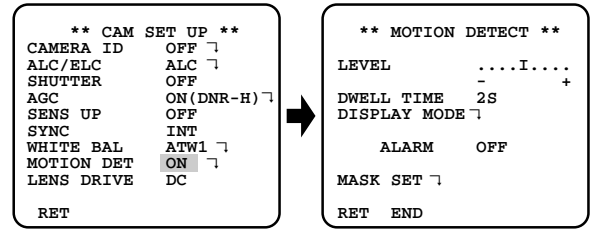
1. To set MASK SET, proceed as described in steps 2 to 4 of “ALC mode with PRESET OFF”. (See page 31 and 32.)
2. Move the cursor to R.
3. Press ◁ or ▷ to obtain the optimum amount of red gain.
4. Move the cursor to B.
5. Press ◁ or ▷ to obtain the optimum amount of blue gain.

Note: When you need to set MASK SET, re-adjust to obtain the optimum amount of red and blue gain.

8. Motion Detector Setting (MOTION DET)

The motion detector detects the moving objects in the scene by monitoring changes in brightness level. You can select the level of sensitivity for motion detection. When this camera is connected to a compatible intelligent CCTV system, the camera transmits an alarm signal by multiplexing it with the video signal.

1. Move the cursor to MOTION DET and select ON.
2. Press ▣. The MOTION DETECT menu appears on the monitor screen.



3. Move the cursor to MASK SET and press ▣. MASK SET lets you set 48 mask areas. To set MASK SET, proceed as described in steps 2 to 4 of “ALC mode with PRESET OFF”. (See page 31 and 32.)
4. Move the cursor to ALARM and select ON or OFF to set the alarm for DISPLAY MODE.
 Note: When the system controller WV-RM70, WV-CU550 series, WV-CU161 or WV-CU360 is used with this model, select OFF for ALARM.
5. Move the cursor to DISPLAY MODE and press ▣ to see the current setting. The masks that detect the brightness changes start blinking.
6. To raise detection sensitivity, press ▣ to return to the MOTION DETECT menu.
7. To obtain the optimum detection level, move the “I” cursor.
8. Repeat the procedures above to obtain a satisfactory setting.

The camera will deactivate the detector for a few minutes after the power of the camera is turned on or the BW setting in the Special Menu is set to other than OFF.

9. Move the cursor to DWELL TIME, and select a time with ◁ or ▷.
 When the time specified here elapses after motion detection, the camera will notify the connected device of the alarm activation. The default setting is 2S.
 Available Time (second): 2 s, 5 s, 10 s, 30 s

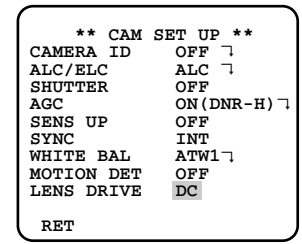
Notes:

- Masking or adjusting the detection level is needed to prevent malfunction under the following conditions:
 - When shooting an object under flickering fluorescent light or shooting in ELC.
 - When leaves or curtains etc. are swayed by the wind.
 - When the object is lighted by lighting equipment that constantly turns on and off.
- Set MOTION DET to OFF when the camera is installed in a system other than a Panasonic CCTV. Otherwise the multiplexed alarm signal may be misunderstood as a time-code.
- There may be a delay of about 0.2 seconds from the time of motion detection until the ALARM OUT terminal becomes active.

9. Lens Drive Signal Selection (LENS DRIVE)

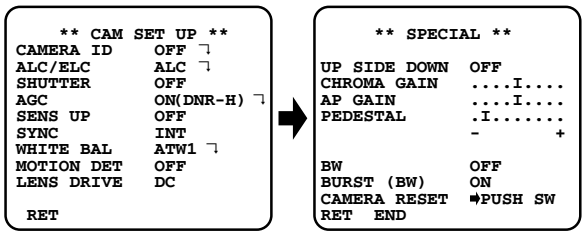
This item is used to select the type of auto iris lens drive signal to be supplied to the lens from the auto iris lens connector.

1. Move the cursor to LENS DRIVE.
2. Select DC or VIDEO depending on the type of lens installed. The default setting is DC.
 DC: Controls the DC-driven type lens.
 VIDEO: Controls the video-driven type lens.



10. Special Menu (SPECIAL)

This menu lets you adjust and set up the video signal of the camera to meet your requirements.
Move the cursor to END on the bottom line of the CAM SET UP menu and press ◁ and ▷ simultaneously (hold down ◁ and press ▷) for 2 seconds or more. The SPECIAL menu appears on the monitor as shown below.



10-1. Camera Picture Upside Down Positioning (UP SIDE DOWN)

1. Move the cursor to UP SIDE DOWN.
2. Select ON when you want to turn the picture upside down.
 Note: Pictures are unreversed left to right.

10-2. Chroma Level Setting (CHROMA GAIN)

1. Move the cursor to CHROMA GAIN.
2. While observing the vectorscope or colour video monitor, move the "I" cursor to adjust the chroma level.

10-3. Aperture Gain Setting (AP GAIN)

1. Move the cursor to AP GAIN.
2. While observing the waveform monitor or colour video monitor, move the "I" cursor to adjust the aperture gain level.

10-4. Pedestal Level Setting (PEDESTAL)

1. Move the cursor to PEDESTAL.
2. While observing the waveform monitor or colour video monitor, move the "I" cursor to adjust the pedestal level (black level).

10-5. BW

1. Move the cursor to BW.
2. Select AUTO1, AUTO2, EXT, ON or OFF using ◁ or ▷.
 Default: OFF

 AUTO1: The camera selects black and white mode if the picture is dark, or colour mode if the picture is bright enough.

 Note: Colour picture switches to black-and-white picture and vice versa in approximately 1 or 2 minutes after recognition of illuminance.

 AUTO2: Applying AUTO1 may cause malfunction when using a source of near-infrared light at night because the illuminance changes significantly when switching between the colour picture and the black-and-white picture. But AUTO2 allows the unit to prevent malfunction because it simply recognizes a source of light.

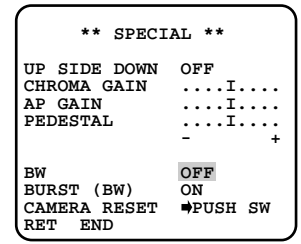
 Note: Because a source of light is simply recognized based on the information from CCD image pickup element, an object sometimes can not be recognized successfully when the object is always moving or the object and its background have the same colour.

 When you apply this mode, AUTO2, the wavelength of the light source should be 800 nm or more.

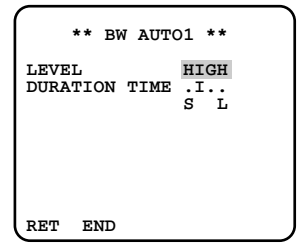
 EXT: Colour picture reverts to black-and-white when an external DAY/NIGHT switching signal is received (refer to alarm and DAY/NIGHT connections).

 ON: Black and White mode is selected.

 OFF: Colour mode is selected.



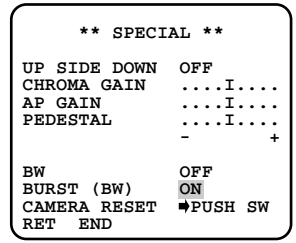
3. Select AUTO1 or AUTO2 using ◁ or ▷.
4. Press ▭.
 The AUTO1 or AUTO2 menu appears on the monitor screen.



5. Move the cursor to LEVEL and select the illuminance level using ◁ or ▷.
 LOW: Colour picture switches to black-and-white at approximately the minimum illumination.
 HIGH: Colour picture switches to black-and-white at a point brighter than the minimum illumination.
 The factory default setting is HIGH.
6. Move the cursor to DURATION TIME to set the switching time using ◁ or ▷.
 The following switching times are available:
 10s--30s--60s--300s
 (S) (L)

10-6. BURST (BW)

1. Move the cursor to BURST (BW).
2. Select ON or OFF using ◁ or ▷.
 Default: ON
 ON: The burst signal is supplied along with the black and white composite video signal.
 OFF: The burst signal is not output.
 Note: Select the appropriate mode for the connected recording device and monitor TV when setting BW (10-5) and burst signal (10-6). There may be cases where the selection will adversely affect synchronization. Select the mode after confirming that the live picture and playback picture are properly displayed on the monitor.

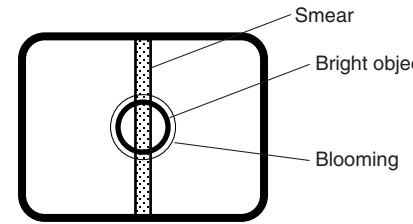


To reset to the factory settings

1. Move the cursor to CAMERA RESET. PUSH SW is highlighted.
2. While holding down ◁ and ▷, press ▭ for 2 seconds or more. The camera is reset to the factory settings.

PREVENTION OF BLOOMING AND SMEAR

When the camera is aimed at a bright light, such as a spotlight, or a surface that reflects bright light, smear or blooming may appear. To avoid smear and blooming the camera should be operated carefully in the vicinity of extremely bright objects.



SPECIFICATIONS

Pick-up Device:	762 (H) x 582 (V) pixels, Interline Transfer CCD
Scanning Area:	6.45 (H) x 4.84 (V) mm (Equivalent to scanning area of 1/2" pick-up tube)
Scanning:	625 lines/50 fields/25 frames
Horizontal:	15.625 kHz
Vertical:	50 Hz
Synchronization:	Internal, Line-locked, External (VS/VBS) or Multiplexed Vertical Drive (VD2) selectable
Video Output:	1.0 V[p-p] PAL composite 75 Ω/BNC connector
Horizontal Resolution:	480 lines (C/L), 570 lines (B/W)
Signal-to-Noise Ratio:	50 dB (AGC OFF, weight ON)
Minimum Illumination:	0.14 lx (0.014 footcandle) at F1.4 (C/L), 0.01 lx (0.001 footcandle) at F1.4 (B/W)
Gain Control:	AGC ON or OFF selectable (SET UP MENU)
White Balance:	ATW1, ATW2 or AWC selectable (SET UP MENU)
Aperture:	Variable (SET UP MENU)

Electronic Light Control:	Equivalent to continuous variable shutter speeds between 1/50 s and 1/10 000 s
AGC:	ON (DNR-H), ON (DNR-M), ON (DNR-L) or OFF selectable (SET UP MENU)
Backlight Compensation:	Preset ON or OFF selectable (SET UP MENU)
Electronic Shutter Speed:	1/50 (OFF), 1/120, 1/250, 1/500, 1/1 000,1/2 000,1/4 000, 1/10 000 s selectable
Lens Mount:	CS-mount
ALC Lens:	DC or Video selectable (SET UP MENU)
Ambient Operating Temperature:	–10 °C - +50 °C (14 °F - 122 °F)
Ambient Operating Humidity:	Less than 90 %
Power Source and Power Consumption:	WV-CLR920A: 220 - 240 V AC 50 Hz 5.5 W WV-CLR924AE: 24 V AC 50 Hz 5.1 W 12 V DC 520 mA
Alarm Out:	Collector-output OFF (Open or 4 V DC - 5 V DC)/ON (≤ 1 V 50 mA)
Day/Night In:	Pulled-up to 5 V DC OFF (Open)/ON (0 V 0.2 mA)
Dimensions (without lens):	74 mm (W) x 55 mm (H) x 120 mm (D) [2-15/16" (W) x 2-3/16" (H) x 4-13/16" (D)]
Weights (without lens):	WV-CLR920A: 0.45 kg (1.0 lbs.) (without power cord) WV-CLR924AE: 0.44 kg (1.0 lbs.)

Weights and dimensions indicated are approximate.
Specifications are subject to change without notice.

STANDARD ACCESSORIES

Body Cap 1 pc.
ALC Lens Connector (YFE4191J100) 1 pc.
AC Power Cord (only for WV-CLR920A) 1 pc.
Floppy Disk 2 pcs.
Instructions for RS485 camera series 1 pc.

OPTIONAL ACCESSORIES

Lenses : WV-LA4R5A, WV-LA6A, WV-LA12A, WV-LZ80/2, WV-LZ81/10, WV-LZ81/6, WV-LP6, WV-LA18, WV-LA36

Matsushita Electric Industrial Co., Ltd.
Osaka, Japan
http://www.panasonic.co.jp/global/

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